

**The Baltimore Declaration**  
**Technical Workshop on the Implementation of a**  
**Global Invasive Species Information Network (GISIN)**  
Baltimore, Maryland, USA  
6-8 April 2004

*We the participants in the aforementioned scientific workshop recognize that:*

Invasive alien species (IAS) represent one of the foremost challenges to the integrity of agriculture, natural ecosystems, and biodiversity in the new millennium. IAS cost human societies hundreds of billions of US dollars per year in control costs and losses to agricultural production, human health, and ecosystem services, far exceeding the combined cost of natural disasters such as floods, wildfires, oil spills, and earthquakes.<sup>1</sup> The threat is global. The increasing movement of people and biological products in global travel and trade render every landscape on earth vulnerable to new infestations.

Freely available information on sources, identities, pathways, and successes and failures of past control efforts provide our best protection against the onslaught of new invaders. This requires building an easily accessible global network for sharing and exchanging data, information, and knowledge (i.e., digital content) about invasive species and their management, among hundreds of governments and research institutions and including thousands of data, information, and knowledge providers and users. Such a network will have to be built on commonly shared ideas and concepts, and will have to provide a platform for the exchange of different viewpoints.

The objectives of the Experts Meeting were as follows:

- Creation of an online working group community that will develop a global invasive species information network,
- Agreement on common data types for the creation of cross searches for invasive species information at a global level,
- Creation and distribution of a proposal funding toolkit, with templates, sample proposals, and detailed lists of possible funding sources for this information network,
- Generation and maintenance of an extensive annotated link list of online invasive species databases,
- Reporting new developments on IAS research and information management throughout the world, and
- Development of a report of the workshop's proceedings and the results of a survey of participants concerning their region's current status of invasive species information

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<sup>1</sup> UNEP. December 2003. Press release. *Weather Related natural Disasters in 2003 Cost the World Billions*. Accessed online, 30 May 2004, at <http://www.unep.org/Documents.Multilingual/Default.asp?DocumentID=362&ArticleID=4320&1=en>

### **The Mission of the Global Invasive Species Information Network:**

- ◆ To provide a platform for sharing invasive species information at a global level, via the Internet and other digital means.
- ◆ To offer a central place for the reporting and tracking of new alien species sightings via email listserv.
- ◆ To develop and share electronic information management tools to better identify, map, and predict the spread of invasive species at regional and global levels.
- ◆ To build the capacity of network members in the development and use of information tools to integrate IAS databases.

#### ***Therefore we conclude:***

A successful global network for sharing and exchanging technical and scientific IAS information (including information on native species that are invasive elsewhere) among hundreds of diverse participants using several languages will need to be widely distributed and ultimately highly scalable. It will also need to be integrated with existing IAS programmes, including those within the framework of the Convention on Biological Diversity (CBD), the International Plant Protection Convention (IPPC), and other relevant international structures.

GISIN "guiding principles" will include the following:

- Require a simple minimum of equipment, software, and computational expertise for participation, so as to include people and institutions with all levels of technical resources.
- Make critical information needed to recognize and manage IAS freely available to the public and discoverable through widely used search technologies, so that IAS information users (such as land and aquatic area managers, farmers, and schools) will find the information they need.
- Adopt widely used technical standards, including World Wide Web technologies, especially XML (Extensible Mark-up Language), RDF (Resource Description Framework), Semantic Web, Web services, and others as feasible and appropriate.
- Agree on and share common vocabularies to describe comparable objects or concepts in different information sources, and in different languages. Work toward consensus on these mutually-useful vocabularies for properties such as taxonomy, geolocation, and recommended practices, in order to develop interoperable information systems.
- Promote these incentives for sharing data:
  - professional recognition for developers of databases,
  - increased linkages to local Websites to increase their availability and use,
  - metadata strategies that help assure that providers of data are properly credited, and
  - tools to make preparation of standardized data and metadata easier and more automatic.

- Seek technical, financial, and logistical collaboration with interconnected projects developing under GISP, IABIN, NBII, IUCN-ISSG,<sup>2</sup> and many other organizations, to establish a network of regional and national IAS hubs that provide a model for a broader GISIN network.
- Focus on the GISIN mission and collaborate with partner organizations to avoid duplication of effort.
- Approach global and regional donor agencies such as WB, GEF, USAID, EU, UNDP, UNEP, TNC, CI,<sup>3</sup> and others, for financial support to successfully implement GISIN activities.
- Seek collaboration with existing efforts and portals, such as the GISP Website and GBIF, to develop several network components based on the Web services approach, including, but not limited to, a centralized portal, an index of the distributed content, and a registry of the distributed content providers and their services.
- Agree, as data providers, to catalog a minimum set of simple but widely applicable data types, and to express them on Websites in standard formats (currently XML-based) readily accessible to the other IAS hubs.
- Contribute content such as fact sheets/profiles, non-native and invasive checklists, experts, observations, specimens, bibliographies, identification/diagnostic information, maps, images, and projects, all of which are to be tagged with a resource identifier and authority (publisher information).

***The workshop participants recommend that parties collecting IAS information in agricultural and natural ecosystems collaborate and support the development of full specifications and deployment of a GISIN. To this end, an interim Steering Committee has been selected to develop a programme of work over the next two years that will lay the foundation for full implementation of the Network.***

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<sup>2</sup> GISP = Global Invasive Species Programme; IABIN = Inter-American Biodiversity Information Network; NBII = U.S. National Biological Information Infrastructure; IUCN-ISSG = Invasive Species Specialist Group of the Species Survival Commission of the World Conservation Union.

<sup>3</sup> WB = World Bank; GEF = Global Environment Facility; USAID = United States Agency for International Development; EU = European Union; UNDP = United Nations Development Programme; UNEP = United Nations Environment Programme; TNC = The Nature Conservancy; CI = Conservation International.